

Jones, Kevin (ASRC)

From: EUENG NAN YEH [eueng-nan.yeh@uspto.gov]
Sent: Thursday, December 14, 2006 8:14 AM
To: STIC-EIC2600
Subject: Database Search Request, Serial Number: 10/673732

*Jefferson
WV
2*

Requester:
EUENG NAN YEH (P/2112)

Art Unit:
GROUP ART UNIT 2112

Employee Number:
83118

Office Location:

Phone Number:

Mailbox Number:

Case serial number:
10/673732

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382/110

Earliest Priority Filing Date:
Sep/29/2003

Format preferred for results:
Paper

Search Topic Information:
The applicant referenced to "Optomax Particle Analysis System".
From the web I found related article
(<http://news.thomasnet.com/fullstory/11384>).

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Set	Items	Description
S1	2	SORCERER() IMAGE() ANALYSIS

1/7,K/1 (Item 1 from file: 88)
DIALOG(R) File 88:Gale Group Business A.R.T.S.
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06243862 SUPPLIER NUMBER: 91489940
Image Analysis System. (Products).
Advanced Materials & Processes, 160, 9, 76(1)
Sept, 2002

TEXT:

Optomax, Hollis, N.H., offers the Sorcerer Image Analysis System, a video-camera-based system featuring a high-resolution CCD camera that is totally compatible with a compact petri viewer or an optical microscope, and can analyze objects down to one micron. Applications include particle size and shape analysis, porosity, spray droplet sizing, and corrosion analysis.

Circle 181

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1/7,K/2 (Item 1 from file: 636)
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05368339 Supplier Number: 91489940 (THIS IS THE FULLTEXT)
Image Analysis System. (Products).
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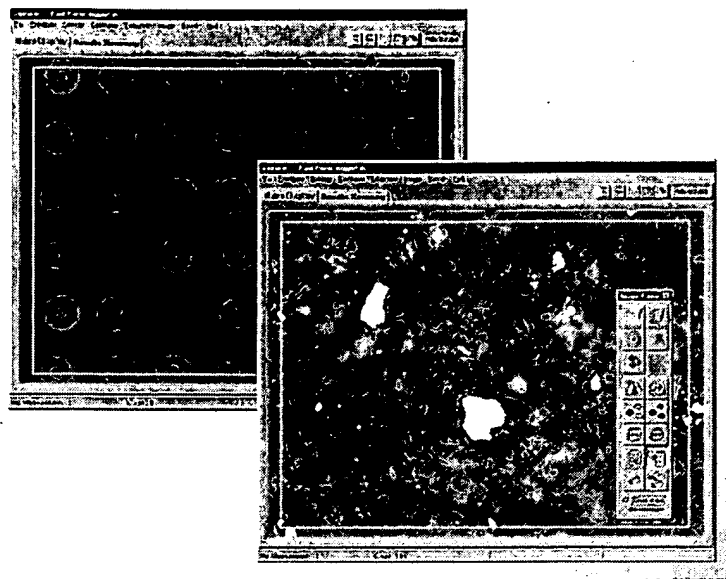
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IMAGE ANALYSIS SYSTEM

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Sorcerer



Sorcerer Image Analysis System

- Automatic & interactive measurements
 - Rapid, accurate, easy to use
 - Powerful macro builder
 - Data transfer to Excel, Access, Oracle
 - Electronic signature and GLP compliance
 - High speed particle size analysis
 - Wide range of proven applications
-

Sorcerer is a powerful, automatic image analysis system which can be used for a wide range of applications in life and materials sciences. Sorcerer has been developed to provide a versatile and fast analytical tool for research and quality control.

Sorcerer consists of an image analysis board that occupies one expansion slot of a personal computer. A monochrome CCD video camera is used to view the sample, either with a microscope, Petri-viewer, or macro stand & lens. Various optical and illumination techniques are available to ensure an optimal picture is presented for analysis. The computer monitor displays the live image within a window together with status and tool bars.

The system detects and measures objects by virtue of contrast differences and has a resolution of 768 x 576 synchronised square pixels and the full 256 grey level range. This allows accurate sizing of microscopic particles ranging in size from about one micron diameter upwards. An optional, high resolution version (1280 x 1030) of Sorcerer is also available for particularly demanding applications.

PERCEPTIVE
INSTRUMENTS



Sorcerer utilises a real-time matrix detection algorithm for situations where shading is encountered, either induced by the sample or the illumination used. The image can be reversed to allow those objects which appear lighter than the background to be analysed.

Circular, rectangular and user-drawn measurement frames are available to suit the sample type and to select particular regions for analysis. These are positioned and their dimensions adjusted using the three button mouse.

An easy to use macro builder allows you to create a sequence of operations for a particular type of analysis. For example, to prompt the user to enter sample details, perform image processing functions, measure and transfer the data.

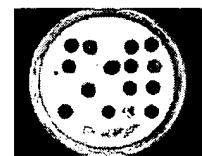
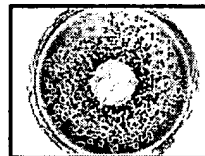
Sorcerer has software for both field and feature specific measurements. Field measurements include count, area, perimeter, grey level and PPM. Feature measurements which relate to individual objects include, area, diameter, longest dimension and position.



Size classification tables are defined by the supervisor and can include up to 50 classes in any progression and on any feature measurement parameter. Feature measurements can be used as include/exclude filters singly, or in logical and/or combinations.

Sorcerer data is transferred directly to Microsoft Excel and can be processed as required with macros set up either by Perceptive Instruments or by the user. It is also possible to instruct Sorcerer to perform a measurement from within Excel or other applications. Data can also be transferred directly to Microsoft Access and Oracle database tables. Images captured by the camera can also be saved to disk for future retrieval and transfer to document processing software.

Sorcerer is designed for use in regulatory environments and includes auditing of all system settings and data., reason for edits, password protection, time-outs etc. It is fully compliant with the FDA 21 CFR Part 11 Final rule on Electronic signature and records.



Applications include:

- Colony counting and sizing
- Antibody susceptibility, multi-point and MIC assays
- Unscheduled DNA synthesis (UDS)
- Particle size and shape analysis
- ELISPOT assay
- Pulp and paper quality
- Mouse lymphoma assay
- Chemotaxis
- Direct Epi-fluorescent filter technique (DEFT)



PERCEPTIVE INSTRUMENTS

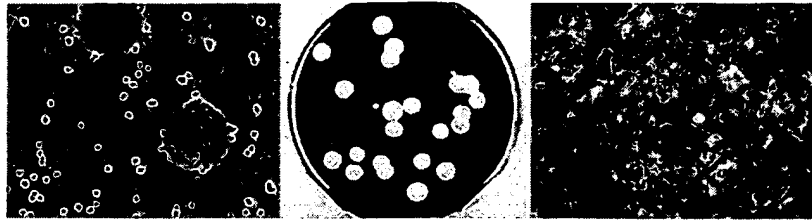
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sales@perceptive.co.uk • www.perceptive.co.uk

IMAGE ANALYSIS SYSTEM

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Scanning Device	Monochrome CCD camera for macro & microscopic imaging. High resolution option available
Sensitivity & Resolution	Standard resolution 256 grey levels at 768 x 576 pixels High resolution 1280 x 1030 pixels
Measurement Times	Between 1 and 2 seconds for each field of view
Video Invert	Selectable for objects darker or lighter than substrate
Detection Algorithms	Standard and Matrix
Grey scale Histogram	256 grey level histogram displayed on screen
Measurement Frames	Circular & rectangular variable in size and position User drawn irregular include and exclude frames
Field Measurements	Field Count, Field Area, Frame Area, No. objects excluded, Field PPM, Field Perimeter, Mean Grey Level, Total Object Area, Total Object Perimeter, Total Object EBA, Mean Object Grey Level, Total Object PPM
Feature Measurements	Position, Area, Filled Area, Perimeter, Longest Dimension, Fibre Length, Fibre Width, Axial Ratio, X Feret, Y Feret, 45 Feret, 135 Feret, Equivalent Diameter, Circularity, Mean Grey Level, Equivalent Black Area (EBA)
Image Editing	Cut, join, include, exclude all, dilate, erode and fill
Filters	Feature measurement parameters can be used as include/exclude filters singly, or in logical and/or combinations
Image Display	Live or frozen 256 grey scale image of sample on screen with optional colour coding of detected objects. Point & shoot facility to measure an individual object. Count flags on separated objects. High resolution zoom window
Image Processing	Binary remove, erode, dilate, separate and hole fill. Variable grey level sharpening. Matrix shade compensation
Calibration	Multiple calibration factors can be saved for different microscope objectives and lenses

Sorcerer - Technical Specification

PERCEPTIVE
INSTRUMENTS

**Macro Builder**

Simple to use editor to create measurement macros for specific tasks. Includes single step replay to assist development. No programming skills are required

Size Classification Tables

Defined by the supervisor, up to 50 classes in any progression and on any parameter. Unlimited number of tables can be saved for routine use

Data Handling

Configurable results table including derived parameters displayed on screen. Data transfer directly to Microsoft Excel. Template for Field, Feature, Histogram, PSA Summary, User Defined, CSV and output tables

Measurements can be made either from Sorcerer or Excel

Data transfer via Object Link Embedding (OLE) and Dynamic Link Libraries (DLL)

Direct transfer of data to Microsoft Access and Oracle database tables

Configurations

Multiple configurations can be saved for different applications e.g. PSA, Colony Counting, UDS, ELISPOT and antibiotic assays

Image Capture

Images can be saved and retrieved as Windows Bitmap files

Headings

Results tables can be customised with up to ten headings. Configurable to default to blank or previous entry

Electronic Signatures & Records

Total compliance with FDA 21 CFR Part 11 Rule
Interface to link with a supplied or any client database of authorised users

Access Levels

Supervisor, Advanced user and User access levels
User administration programs
Additional locks on individual menus and menu items

GLP Compliance

Encoded audit data file reports all original and edited data with reason, date, time and by whom
Encoded audit trail file reports all system configuration settings and changes made during analysis
Variable, timed user log-outs and password expiry

Recommended minimum configuration for Sorcerer:

IBM PC compatible Pentium II 266 processor
64 MB RAM system memory 4MB Video RAM (8MB for Hi-Res option)
17" Colour SVGA display at 1024x768 resolution, 24-bit true colour
Microsoft 2 button / Logitech 3 button (recommended) mouse
Windows 95, 98, NT4 or 2000



Perceptive Instruments Ltd have ISO 9001 and TickIT approval for our Quality Management system from a UKAS accredited certification body.

PERCEPTIVE INSTRUMENTS

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Sorcerer

Image Analysis System

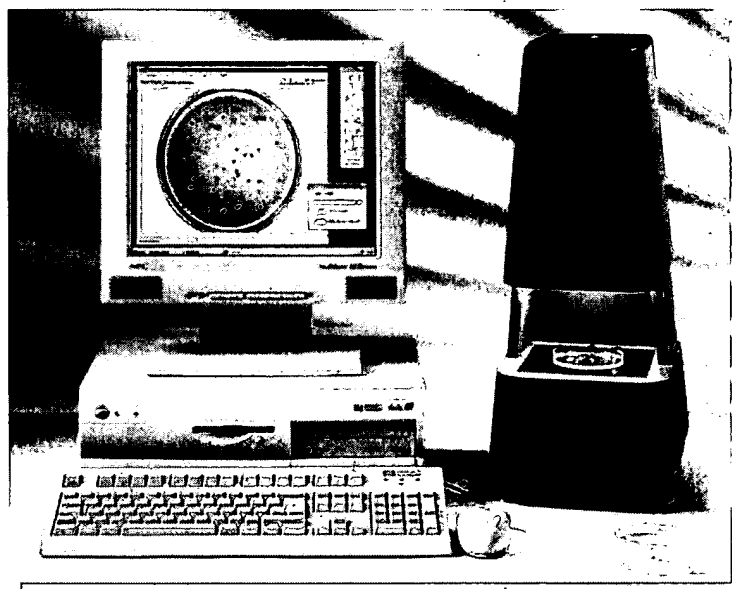
Life Science Applications include:

- ♦ Ames testing
- ♦ Antibiotic Inhibition zones
- ♦ Autoradiograph Grain counting
- ♦ Bone Morphology
- ♦ Chemotaxis
- ♦ Colony counting and sizing
- ♦ Direct Epi-fluorescent filter technique
- ♦ Elispot assay
- ♦ Inhibition zones / Viral plaques
- ♦ MIC assays
- ♦ Mouse lymphoma assay
- ♦ Unscheduled DNA synthesis

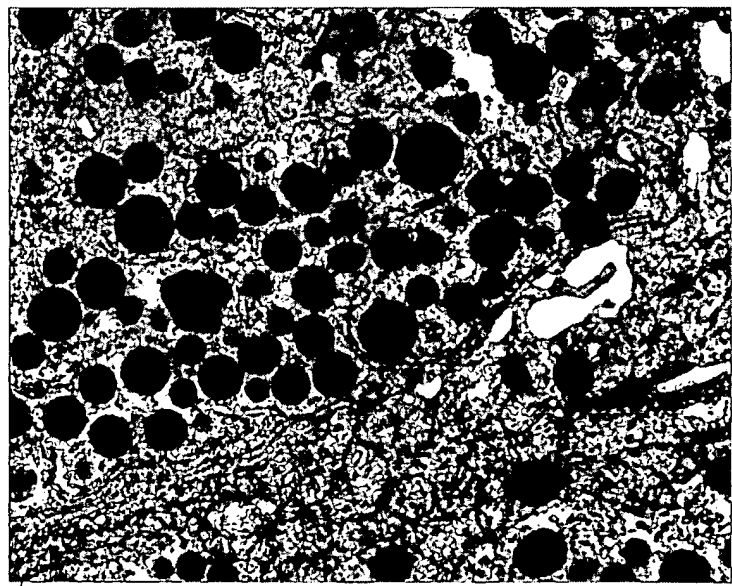
Materials Science application include:

- ♦ Composite materials
- ♦ Contamination in hydraulic fluid
- ♦ Corrosion analysis
- ♦ Etch pit analysis
- ♦ Inclusion analysis
- ♦ Nuclear track counts
- ♦ Particle size and shape analysis
- ♦ Porosity
- ♦ Print quality
- ♦ Pulp and Paper quality
- ♦ Spray droplet sizing

Sorcerer is a versatile Video Camera based Image Analysis system. Utilized in the Biological and Materials Sciences, the unit has application in R & D and Quality Control environments.



Sorcerer system with Petriviewer



Digital image display of detected objects

Sorcerer Features:

- ◆ Program settings are saved in named configuration files for subsequent use.
- ◆ Multiple configurations can be saved for different applications. For example, Colony counting, Residual ink analysis, Particle sizing, Zone reading, Print quality.
- ◆ A video window displays a live sample image, together with status and tool bars.
- ◆ Sorcerer links directly to Microsoft Excel spreadsheet via OLE and data can be processed via Excel macros.
- ◆ Field and Feature specific measurements are generated.
- ◆ Field measurements include Total Count, Total Area, Total Perimeter, Gray level and PPM.
- ◆ Feature measurements relating to individual objects include Area, Diameter, Longest dimension and Position.
- ◆ Measurement data can be filtered using logical And / Or combinations of any measurement parameters).
- ◆ Size classification tables (up to 50 classes in any progression) can be user defined and saved.
- ◆ Images captured by the video camera can be saved to disk for future retrieval or transfer to document processing software.
- ◆ Measured data can be saved to Microsoft Excel or ASCII (comma separated value) format files.
- ◆ High speed Image Analysis Hardware and Software runs under Windows 98 / NT4 / 2000 / XP operating systems.
- ◆ Samples are imaged by a high-resolution monochrome CCD Video camera coupled to a Microscope, Petri-plate viewer or Macroviewer.
- ◆ Optical and illumination techniques are available to ensure that optimal images are presented for analysis.
- ◆ Objects are detected for measurement by virtue of contrast differences within the image.
- ◆ A resolution of 768 x 576 synchronized square pixels (optional 1300 x 1030 pixels) and 256 gray level range ensure accurate measurements.
- ◆ Microscopic particles as small as one micron can be accurately counted and sized.
- ◆ A new Matrix detection algorithm compensates for objects within the image having different contrast levels.
- ◆ Video invert allows reversal of the image where objects to be analyzed appear lighter than the background.
- ◆ Circular, Rectangular or User-defined measurement frames can be set to suit the sample type.
- ◆ Simple macro commands allows rapid creation of a sequence of measurement operations for a particular analysis. An editor allows single step replay to assist macro development.
- ◆ Simple Calibration routines allow multiple microscope / Macroviewer optical magnifications to be saved.

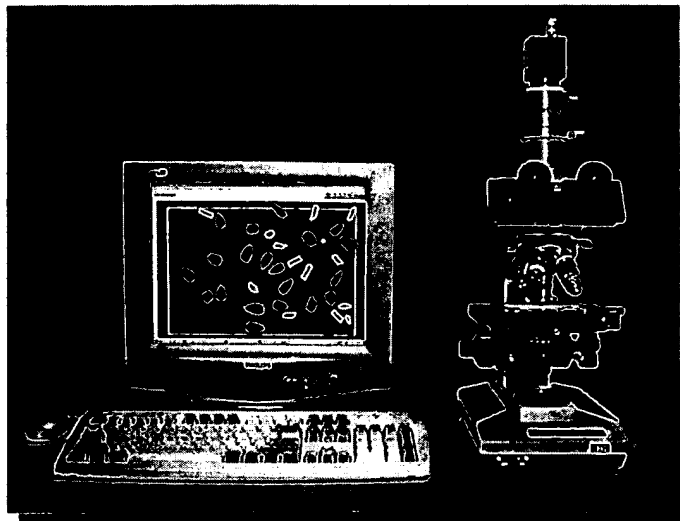
Sorcerer Input Devices

Sorcerer's video camera will couple to any light microscope having an available C mount adapter.

Illumination modes include:
Reflected, Transmitted, Bright field,
Dark field and Phase.

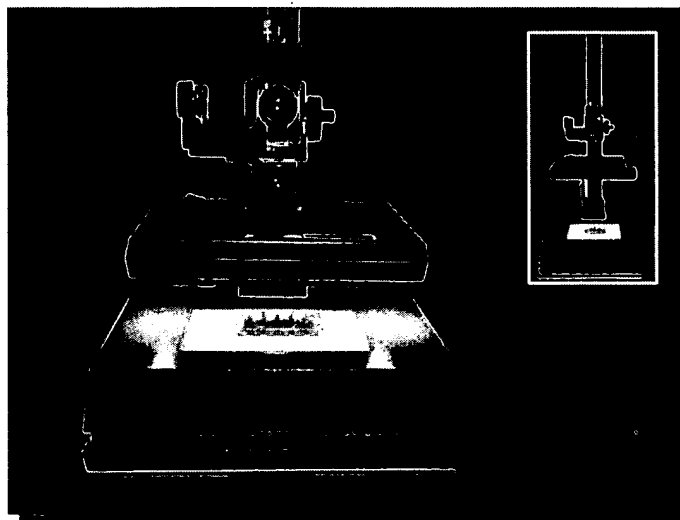
Applications include:

Cell counts
Etch pit density
Particle sizing
Print quality
UDS



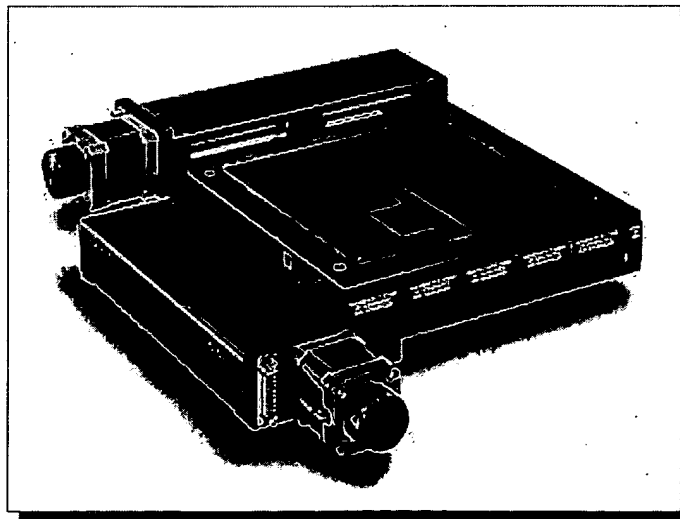
A general purpose Macroviewer with Transmitted and Reflected illumination facilitates the analysis of many different sample formats and applications including:

100 / 150 mm Petri plates
Multi-well plates
Prints / Negatives / X-ray plates
Contamination in Paper products
Colony counts / Zones of Inhibition
Membrane filters / 3M Petri-film



Some Image Analysis applications require many fields of view to be scanned in order to generate statistically valid sample data.

A digital stepping motor driven sample stage and controller is available for the Sorcerer Image Analysis system to automate sample movement on a light Microscope or Macroviewer.



Sorcerer

Sorcerer Specifications

Scanning device	High performance monochrome CCD video camera.
Sensitivity	256 gray levels.
Resolution	Standard Resolution 768 x 576 pixels. High Resolution 1300 x 1030 pixels.
Measurement times	Between 1 to 2 seconds per field of view.
Video invert	Selectable for objects darker or lighter than the background.
Detection algorithms	Binary and Matrix. Matrix detection algorithm eliminates object gray level variations within samples.
Gray scale histogram	256 gray level histogram displayed on screen.
Measurement frames	Circular, Rectangular, Exclude and User defined.
Field Measurements	Field Count, Field Area, Frame Area, No. of objects excluded, Field PPM, Field Perimeter, Mean Gray Level, Total Object Area, Total Object Perimeter, Total Object EBA, Mean Object Gray Level, Total Object PPM.
Feature Measurements	Position, Area, Filled Area, Perimeter, Longest Dimension, Fibre Length, Fibre Width, Axial Ratio, X Feret, Y Feret, 45 Feret, 135 Feret, Equivalent Diameter, Circularity, Mean Gray Level, Equivalent Black Area (EBA).
Filters	Feature measurement parameters can be used as Include / Exclude filters singly, or as logical And / Or .
Image display	Live or Frozen 256 gray scale image of sample on screen with optional color coding of detected objects. Count flags on separated objects.
Image editing	Object measurement within user defined frames. Inclusion / Exclusion of individual detected objects via the mouse. Point & shoot facility measures individual objects via the mouse.
Image processing	Binary Remove, Erode, Dilate, Separate and Hole fill. Variable gray level sharpening. Matrix shade compensation.
Calibration	Multiple calibration factors can be saved for different microscope objectives and macro lenses.
Macro facility	Simple to use editor creates measurement macros for specific tasks. Includes single step replay to assist development. No programming skills are required.
Size Classification	Up to 50 size classes in any progression for any parameter. Unlimited number of tables can be saved for routine use.
Data tables	Configurable data tables using Microsoft Excel. Data are transferred to Excel via OLE link. Standard Sorcerer / Excel template file includes: Field, Feature, Histogram, Particle Size Analysis, Summary, User defined, ASCII file save and Output tables.
Data file format	Microsoft Excel and ASCII comma separated value. Direct OLE linking to Excel.
Configurations	Multiple configurations can be saved for different applications. For example, Colony counting, Residual ink analysis, Particle sizing, Zone reading, Print quality.
Headings	Data tables can be customized with up to six printout / file headings.
Image capture	Images can be Saved and Retrieved as Windows Bitmap files.
Security	Supervisor and User levels of access, with password protection.
Operating system	Microsoft Windows 98 / NT4 / 2000 / XP.
Computer	Minimum 733 MHz Pentium III, 128 MB RAM, 10GB / 1.44 MB drives, SVGA 1024 x 768 graphics, Microsoft compatible 2 or 3 button mouse, Microsoft Excel.

Optomax

Image Analysis Products for Science & Industry

9 Ash Street, P.O. Box 840, Hollis, NH 03049, USA.

Tel: (603) 465 3385 FAX: (603) 465 2291 E-mail: optomax@msn.com

Sorcerer

Image Analysis System

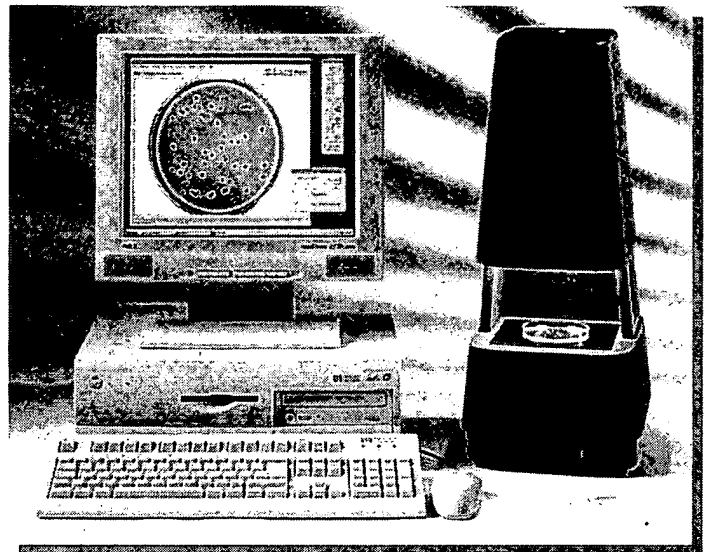
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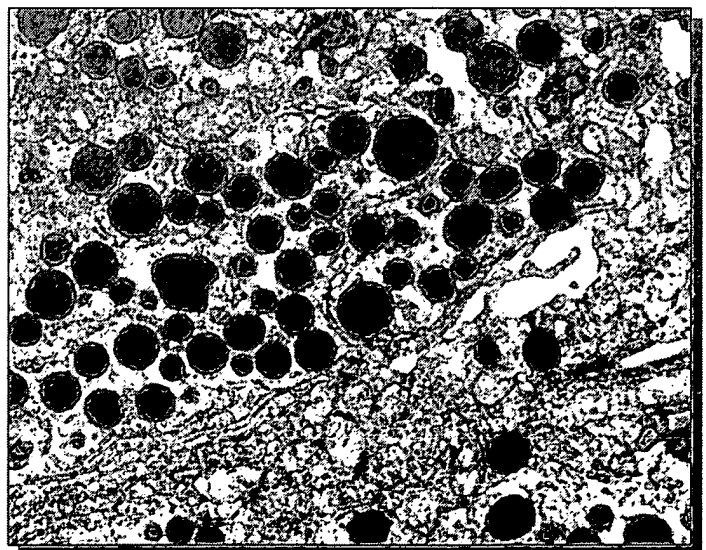
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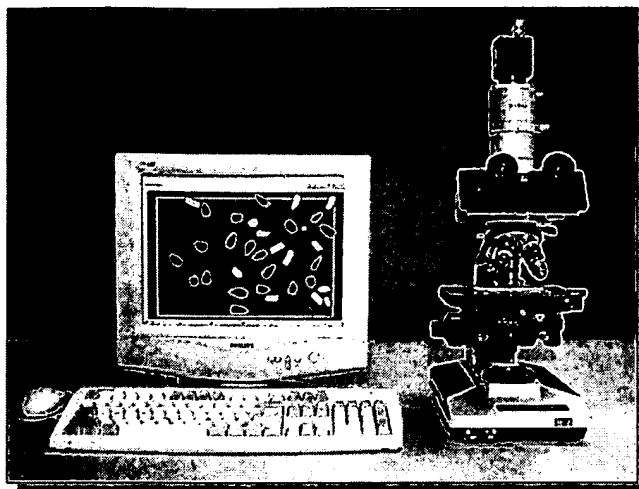
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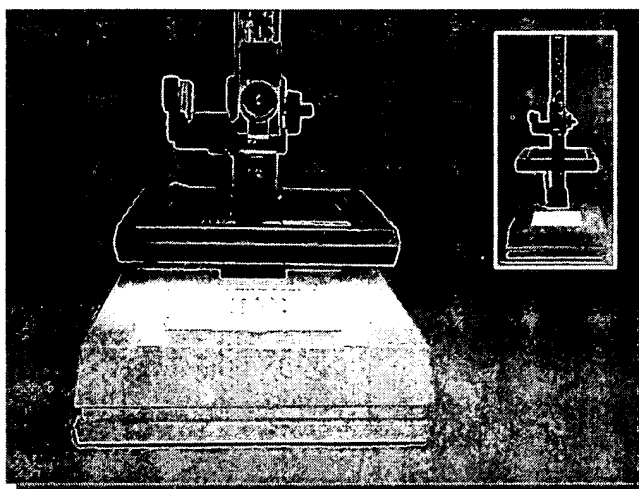
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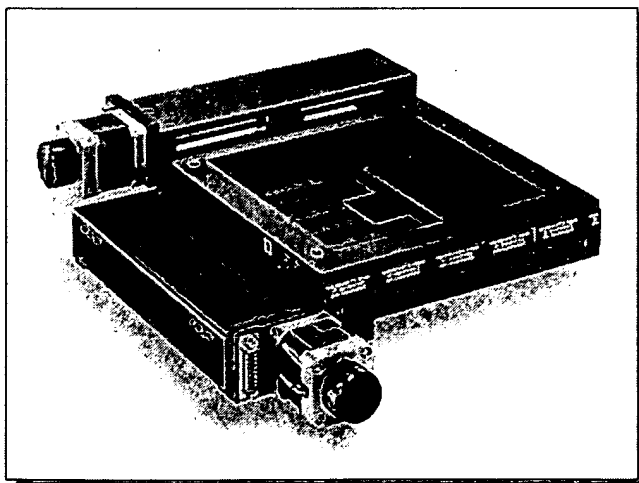
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Macro facility	Simple to use editor creates measurement macros for specific tasks. Includes single step replay to assist development. No programming skills are required.
Size Classification	Up to 50 size classes in any progression for any parameter. Unlimited number of tables can be saved for routine use.
Data tables	Configurable data tables using Microsoft Excel. Data are transferred to Excel via OLE link. Standard Sorcerer / Excel template file includes: Field, Feature, Histogram, Particle Size Analysis, Summary, User defined, ASCII file save and Output tables.
Data file format	Microsoft Excel and ASCII comma separated value. Direct OLE linking to Excel.
Configurations	Multiple configurations can be saved for different applications. For example, Colony counting, Residual ink analysis, Particle sizing, Zone reading, Print quality.
Headings	Data tables can be customized with up to six printout / file headings.
Image capture	Images can be Saved and Retrieved as Windows Bitmap files.
Security	Supervisor and User levels of access, with password protection.
Operating system	Microsoft Windows 98 / NT4 / 2000 / XP.
Computer	Minimum 733 MHz Pentium III, 128 MB RAM, 10GB / 1.44 MB drives, SVGA 1024 x 768 graphics, Microsoft compatible 2 or 3 button mouse, Microsoft Excel.

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